

Chapter 2 Preview
Reasoning and Proof
Geometry

Name _____

Date _____

Define the following:

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|---------------------------|--------------------------|
| 1. Inductive Reasoning | 18. Contrapositive |
| 2. Conjecture | 19. Logically Equivalent |
| 3. Counterexample | 20. Deductive Reasoning |
| 4. Statement | 21. Valid |
| 5. Truth Value | 22. Law of Detachment |
| 6. Negation | 23. Law of Syllogism |
| 7. Compound Statement | 24. Postulate |
| 8. Conjunction | 25. Axiom |
| 9. Disjunction | 26. Proof |
| 10. Truth Table | 27. Theorem |
| 11. Conditional Statement | 28. Deductive Argument |
| 12. If-Then Statement | 29. Paragraph Proof |
| 13. Hypothesis | 30. Informal Proof |
| 14. Conclusion | 31. Algebraic Proof |
| 15. Related Conditionals | 32. Two-Column Proof |
| 16. Converse | 33. Formal Proof |
| 17. Inverse | |

You *should* be able to do the following objectives:

1. Make conjectures based on inductive reasoning.
2. Find counterexamples.
3. Determine truth values of negatives, conjunctions, disjunctions, and represent them using Venn diagrams.
4. Analyze statements in if-then form.
5. Write the converse, inverse, and contrapositive of if-then statements.
6. Use the Law of Detachment.
7. Use the Law of Syllogism.
8. Identify and use basic postulates about points, lines, and planes.
9. Write paragraph proofs.
10. Use algebra to write two-column proofs.
11. Use properties of equality to write geometric proofs.
12. Write proofs involving segment addition.
13. Write proofs involving segment congruence.
14. Write proofs involving supplementary and complementary angles.
15. Write proofs involving congruent and right angles.

If you can give a good definition for each term without having to look it up, then you should be ready to identify these terms for application. If you can describe a method as to how to perform each of the objectives, then you should be ready to perform these tasks. If there are

any terms or objectives that you are unsure about, then these are the things you want to take extra time studying.

Use this Preview Sheet to help keep yourself organized as we progress through Chapter 2. Refer back to it. Understand the concepts that are included.

Check the class wiki for summary assignments and bonus.